Technology Opportunity

Electronic Systems/Components

Wireless Communications Headset Subsystem to Enhance Signaling

The National Aeronautics and Space Administration (NASA) seeks to transfer the NASA-developed technology Wireless Communications Headset Subsystem to Enhance Signaling to private industry for use in commercial applications. A universal adapter for communications headsets, such as phones, radios, and broadcast systems, this technology was developed at the John F. Kennedy Space Center (KSC) in Florida. This technology permits the interfacing of any commercial off-the-shelf (COTS) wireless headset and any communications equipment that requires signaling (e.g., push-to-talk signals) not provided by the headset.

Potential Commercial Uses

Any job that requires frequent verbal communication, wireless mobility, and freedom from a handset or wired headset would benefit from this invention:

- Call centers
- Emergency response
- Law enforcement
- Air traffic control
- Commercial launch control
- Military maneuvers
- Personal communications devices

Benefits

- **Signaling Capabilities:** The system enables remote wireless signaling to answer phones, switch lines, integrate radio communication, and perform many other functions.
- **Ease of Assembly:** The device is constructed using commercially available components.
- **Compatible with Standard Formats:** The system operates in the conventional 900-MHz industrial, scientific, and medical (ISM) frequency bands.
- **Low Noise:** The system minimizes background noise in push-to-talk applications.

National Aeronautics and Space Administration
John F. Kennedy Space Center, FL

The Technology

NASA's Wireless Communications Headset Subsystem to Enhance Signaling provides push-to-talk signals to a communications system as if the user were directly wired to the system. The prototype includes a push-to-talk unit (i.e., a low-power auxiliary radio transmitter) carried by the user and an auxiliary radio receiver. Upon receiving this signal, the base auxiliary radio generates a control signal that turns on the audio circuits at the base station. NASA is using this prototype interface successfully in its launch operations.

The user wears a COTS wireless headset and a signaling transmitter with optional keypad that can be hand-held and/or fastened to a belt. The wireless headset provides a full duplex voice connection to the headset system base. The signaling transmitter provides an encoding signaling message to the subsystem, which connects to any communications system to provide the functional link between the headset-transmitter pair and the communications system. The subsystem can be configured internally or externally to the communications system.

Operating in the 900-MHz and 2.4 GHz ISM frequency band, the technology permits multiple wireless users to operate independently in the same environment without interference. The technology can be used with any COTS wireless headset and communications system without modification, or it can be directly integrated into headsets and expanded to perform various telephone functions, such as dial-tone-multifrequency (DTMF) delivery and on/off hook signals.

Options for Commercialization

NASA seeks qualified companies to commercialize the Wireless Communications Headset Subsystem. This and other technologies are made available by the KSC Technology Commercialization Office through a variety of licensing and partnering agreements. These include patent and copyright licenses, cooperative agreements, and reimbursable and nonreimbursable Space Act Agreements.

Contact

If your company is interested in the Wireless Communications Headset Subsystem technology or if you desire additional information, please reference Case Number KSC-12052 and contact:

Lynne Henkiel
SERTTC Industry Liaison
Technology Commercialization Office
Mail Code: YA-C1
Kennedy Space Center, FL 32899
Telephone: (321) 867-8130
Fax: (321) 867-2050
Lynne.Henkiel-1@ksc.nasa.gov

Commercialization Checklist

- ✔ Patent pending
- U.S. Patent
- Copyrighted
- ✔ Available for licensing
- Available for no-cost transfer
- Seeking industry partner for further codevelopment

KSC-12052/TOP10-49/01-03/2.4